

## PATENT

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March 30, 2005  
Date

Lawrence Teague

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Zaihui Zhang et al.  
Int'l Application No. : PCT/CA03/00921  
U.S. Application No. : 10/519,159  
Int'l Filing Date : June 18, 2003  
For : METHODS OF USING BENZOTHIOPHENONE DERIVATIVES  
TO TREAT CANCER OR INFLAMMATION

Docket No. : 540057.413USPC  
Date : March 30, 2005

Mail Stop PCT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents:

In accordance with 37 CFR 1.56 and 1.97 through 1.98, applicants wish to make known to the U.S. Patent and Trademark Office the references set forth on the attached Form PTO-1449. Copies of the cited U.S. patents and published patent applications are not required and accordingly have not been provided. Copies of all other cited references are enclosed. As to any reference cited, applicants do not admit that it is "prior art" under 35 U.S.C. §§ 102 or 103, and specifically reserve the right to traverse or antedate any such reference, as by a showing under 37 CFR 1.131 or other method. Although the aforesaid references are made known to the Patent and Trademark Office in compliance with applicants' duty to disclose all information they

are aware of which is believed relevant to the examination of the above-identified application, applicants believe that their invention is patentable.

Applicants note that reference AI (JP 60-214994) is written in Japanese. Accordingly, applicants respectfully direct the Examiner's attention to reference CK, which is an English abstract regarding published Japanese patent application JP 60214994.

Applicants note that reference AJ (JP 63-159841) is written in Japanese. Accordingly, applicants respectfully direct the Examiner's attention to reference CL, which is an English abstract regarding published Japanese patent application JP 63159841.

Applicants note that reference AK (JP 63-173690) is written in Japanese. Accordingly, applicants respectfully direct the Examiner's attention to reference CM, which is an English abstract regarding published Japanese patent application JP 63173690.

Applicants note that reference AP is written in Russian. The following is the English title of the document: Determination of parameters of molecules of polymethine dyes in the ground and electronically excited states by the electrochromism.

Applicants note that reference BF is written in German. Accordingly, the Examiner's attention is respectfully directed to the first page of the document, which provides an English abstract. Additionally, applicants provide the following English title: Quantum-chemical studies on dye aggregates. XII. Aggregate structures of merocyanines.

Applicants note that reference BG is written in German. Accordingly, the Examiner's attention is respectfully directed to the first page of the document, which provides an English abstract. Additionally, applicants provide the following English title: LCAO MO calculations of sulfur-containing  $\pi$ -electron systems. XXXIV. No-bond S,S-interaction in polymethine dyes.

Applicants note that reference BK is written in Russian. The following is the English title of the document: Determination of electrooptical parameters of polymethine dyes by electrochromic method.

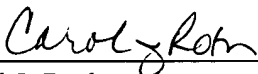
Applicants note that reference BL is written in German. Accordingly, the Examiner's attention is respectfully directed to the first page of the document, which provides an English abstract and title.

Applicants note that reference CH is written in Russian. The following is the English title of the document: Study of the kinetics of decay of short-lived photoisomers of dimethinemerocyanines, derivatives of 3-hydroxythionaphthene in different solvents.

Please acknowledge receipt of this Information Disclosure Statement and kindly make the cited references of record in the above-identified application.

Applicants believe this Information Disclosure Statement has been timely filed, however, the Director is authorized to charge any fee due by way of this Information Disclosure Statement to our Deposit Account No. 19-1090.

Respectfully submitted,  
Seed Intellectual Property Law Group PLLC

  
\_\_\_\_\_  
Carol J. Roth  
Registration No. 32,782

CJR:ljt

Enclosures:

Postcard  
Transmittal Form  
Form PTO-1449 (3 Sheets)  
Cited References (30)

701 Fifth Avenue, Suite 6300  
Seattle, Washington 98104-7092  
Phone: (206) 622-4900  
Fax: (206) 682-6031

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FORM PTO-1449  
(REV.7-80)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.

540057.413USPC

APPLICATION NO.

10/519,159

**INFORMATION DISCLOSURE STATEMENT**

(Use several sheets if necessary)

APPLICANTS

Zaihui Zhang et al.

INT'L FILING DATE

June 18, 2003

GROUP ART UNIT

Not Assigned

**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	2748114	05/29/56	Brooker et al.	260	240.4	
	AB	2794802	06/04/57	Horwitz	260	240	
	AC	3764322	10/09/73	Kampfer et al.	96	29 D	
	AD	4082770	04/04/78	Stoss et al.	260	330.5	
	AE	4750228	06/14/88	Naef	8	636	
	AF	4812439	03/14/89	Ohara et al.	503	227	
	AG	5795844	08/18/98	Evans et al	503	227	
	AH	6262044	07/17/01	Møller et al.	514	202	
	AI						
	AJ						

**FOREIGN PATENT DOCUMENTS**

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
					YES	NO
	AK	GB 686678	01/28/53	GB		
	AL	JP 60214994	10/28/85	JP		X
	AM	JP 63159841	07/02/88	JP		X
	AN	JP 63173690	07/18/88	JP		X
	AO	WO 95/10513	04/20/95	PCT		

**OTHER ART** (Including Author, Title, Date, Pertinent Pages, Etc.)

	AP	Chernyakovskii, F. P.; Kicheva, N. S.; Ushomirskii, M. N.; Shmulevich, L.A. Zh. Nauchn. Prikl. Fotogr. (1997), 42(4):78-84.
	AQ	Cool, D.E., et al. "cDNA isolated from a human T-cell library encodes a member of the protein-tyrosine-phosphatase family" PNAS USA (1989) 86(14):5257-61.
	AR	Davidson, D., et al. "PTP-PEST, a scaffold protein tyrosine phosphatase, negatively regulates lymphocyte activation by targeting a unique set of substrates" EMBO J (2001) 20(13):3414-26.

EXAMINER

DATE CONSIDERED

\* EXAMINER: Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant(s).

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## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	BA						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
					YES	NO
	BB	WO 99/61467	12/02/99	PCT		
	BC	WO 00/36111	06/22/00	PCT		
	BD	WO 02/08245	01/31/02	PCT		
	BE					

## OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

	BF	Dietz, F.; Kaiser, M. J. Signalaufzeichnungsmater. (1982), 10(5):321-9.
	BG	Fabian, J.; Hartmann, H.; Fabian, K. "LCAO-MO-berechnungen an schwefelhaltigen $\pi$ -elektronensystemen-XXXOV' Nichtbindende S,S-wechselwirkung in polymethinfarbstoffen" Tetrahedron (1973), 29(17): 2609-19.
	BH	Garton, A.J., et al. "Regulation of fibroblast motility by the protein tyrosine phosphatase PTP-PEST" J Biol Chem (1999), 274(6):3811-3818.
	BI	Hosoi, Kazukuni; Hirano, Akihiro; Tani, Tadaaki. "Dynamics of photocreated positive holes in silver bromide microcrystals with adsorbed cyanine dyes" Journal of Applied Physics (2001), 90(12): 6197-6204.
	BJ	Ibarra-Sanchez, M.J., et al. "Murine embryonic fibroblasts lacking TC-PTP display delayed G1 phase through defective NF-kappaB activation" Oncogene (2001), 20(34):4728-39.
	BK	Kicheva, N. S.; Chernyakovskii, F. P. Izv. Vyssh. Uchebn. Zaved., Khim. Khim. Tekhnol. (1994), 37(3):48-52.
	BL	Kussler, Manfred; Balli, Heinz Helv. Chim. Acta (1989), 72(2):295-306.
	BM	Mitra, S. K., et al. "Inhibition of anchorage-independent cell growth, adhesion, and cyclin D1 gene expression by a dominant negative mutant of a tyrosine phosphatase" Exp Cell Res (2001), 270(1):32-44.

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FORM PTO-1449 (REV.7-80)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. <b>540057.413USPC</b>		APPLICATION NO. <b>10/519,159</b>	
<b>INFORMATION DISCLOSURE STATEMENT</b> (Use several sheets if necessary)				APPLICANTS <b>Zaihui Zhang et al.</b>			
				INT'L FILING DATE <b>June 18, 2003</b>		GROUP ART UNIT <b>Not Assigned</b>	
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*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	CA						
<b>FOREIGN PATENT DOCUMENTS</b>							
		DOCUMENT NUMBER	DATE	COUNTRY		TRANSLATION	
						YES	NO
	CB						
<b>OTHER ART</b> <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>							
	CC	Morita, Masahiko; Imamura, Shunji; Yatabe, Kikuo. "Guest-host effect in nematic liquid crystal MBBA" Jpn. J. Appl. Phys. (1975), 14(2):315-16					
	CD	Nomura, Akira; Ogawa, Shinichi "The effect of field application on the flow speed of some dye-mixed liquid crystals at a constant pressure" Jpn. J. Appl. Phys. (1977), 16(4):639-40.					
	CE	Radha, V., et al. "Induction of p53 dependent apoptosis upon overexpression of a nuclear protein tyrosine phosphatase" FEBS Letters (1999), 453(3):308-312.					
	CF	Reiser, J., et al. "Regulation of mouse podocyte process dynamic by protein tyrosine phosphatases rapid communication" Kidney Int (2000) 57(5):2035-2042.					
	CG	Takeawa, M., et al. "Chromosomal localization of the protein tyrosine phosphatase G1 gene and characterization of the aberrant transcripts in human colon cancer cells" FEBS Letters (1994), 339(3):222-228.					
	CH	Vinogradov, A. M.; Kuz'min, V. A.; Al'perovich, M. A.; Sveshnikov, N. N.; Levkoev, I. I. Izv. Akad. Nauk SSSR, Ser. Khim. (1979), 7:1497-500.					
	CI	Yang, Q; Co, D.; Sommercorn, J et al. "Cloning and expression of PTP-PEST. A novel, human, nontransmembrane protein tyrosine phosphatase" J. Biol. Chem. (1993), 268(9):6622-28.					
	CJ	You-Ten, K.E., et al. "Impaired bone marrow microenvironment and immune function in T cell protein tyrosine phosphatase-deficient mice" J Exp Med (1997), 186(5):683-693.					
	CK	Patent Abstracts of Japan, JP 60-214994, October 28, 1985.					
	CL	Chemical Abstracts, Accession No. 1989:202956, May 26, 1989. See also JP 63159841.					
	CM	Patent Abstracts of Japan, JP 63-173690, July 18, 1988.					
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